```cpp
// Maitland Huffman
// CS 2318
// Assignment 02P2


#include <iostream>
using namespace std;

int a1[12],
a2[12],
a3[12];
char einStr[] = "Enter integer #";
char moStr[] = "Max of ";
char ieStr[] = " ints entered...";
char emiStr[] = "Enter more ints? (n or N = no, others = yes) ";
char begA1Str[] = "beginning a1: ";
char am1dA1Str[] = "a1 (dups<=1): ";
char procA1Str[] = "processed a1: ";
char procA2Str[] = "           a2: ";
char procA3Str[] = "           a3: ";
char dacStr[] = "Do another case? (n or N = no, others = yes) ";
char dlStr[] = "===============================";
char byeStr[] = "bye...";

int main()
{
    char reply;
    int used1,
        used2,
        used3,
        truncAvg,
        found,
        sum,
        * hopPtr1,
        * hopPtr11,
        * hopPtr2,
        * hopPtr3,
        * endPtr1,
        * endPtr11,
        * endPtr2,
        * endPtr3;


    reply = 'y';
```

```cpp
MENUSTART:
    if (reply == 'n' || reply == 'N') { goto EXITMENU; }

    used1 = 0;
    hopPtr1 = a1;
BegL1:

    std::cout << einStr;
    std::cout << (used1 + 1);
    std::cout << ':' << ' ';
    std::cin >> *hopPtr1;
    ++used1;
    ++hopPtr1;
    if (used1 < 12)
    {
        std::cout << emiStr;
        std::cin >> reply;
    }
    else
    {
        std::cout << moStr << 12 << ieStr << endl;
        reply = 'n';
    }
    if (reply != 'n' && reply != 'N') { goto BegL1; }

    std::cout << begA1Str;
    if (used1 < 0) { goto endif3; }

    hopPtr1 = a1;
    endPtr1 = a1 + used1;
begDW1:
    {
        std::cout << *hopPtr1 << ' ' << ' ';
        ++hopPtr1;
    } if (hopPtr1 < endPtr1) { goto begDW1; }

endif3:

    std::cout << endl;

    if (used1 < 1) { goto ELSE2; }

    hopPtr1 = a1;
    endPtr1 = a1 + used1 - 1;
begW2:
```

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        found = 0;
        endPtr2 = a1 + used1;
        hopPtr2 = hopPtr1 + 1;
begFL1:

        if (*hopPtr2 != *hopPtr1) { goto Loop1IFelse1; }

        if (found != 1) { goto else1loop2; }

        endPtr3 = a1 + used1;

        hopPtr3 = hopPtr2 + 1;
begFL2:

        *(hopPtr3 - 1) = *hopPtr3;
        ++hopPtr3;
        if (hopPtr3 < endPtr3) { goto begFL2; }

        --used1;
        --endPtr1;
        --endPtr2;
        --endPtr3;
        --hopPtr2;

else1loop2:


        ++found;
Loop1IFelse1:

        ++hopPtr2;
        if (hopPtr2 < endPtr2) { goto begFL1; }


        ++hopPtr1;
        if (hopPtr1 < endPtr1) { goto begW2; }


        std::cout << am1dA1Str;
        if (used1 < 0) { goto endif4; }

        hopPtr1 = a1;
        endPtr1 = a1 + used1;
begDW2:
```

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        std::cout << *hopPtr1 << ' ' << ' ';
        ++hopPtr1;
        if (hopPtr1 < endPtr1) { goto begDW2; }
endif4:
        std::cout << endl;

        if (used1 < 0) { goto ENDIF2; }

        sum = 0;
        hopPtr1 = a1 + used1 - 1;
        endPtr1 = a1;
begDW3:

        sum += *hopPtr1;
        --hopPtr1;
        if (hopPtr1 >= endPtr1) { goto begDW3; }
        truncAvg = sum / used1;

        used2 = 0;
        used3 = 0;
        hopPtr2 = a2;
        hopPtr3 = a3;
        endPtr1 = a1 + used1;




        hopPtr1 = a1;
begFL3:

        if (*hopPtr1 = truncAvg) { goto endif5; }

        if (*hopPtr1 > truncAvg) { goto else3; }

        *hopPtr2 = *hopPtr1;
        ++used2;
        ++hopPtr2;
        goto endif3;

else3:

        *hopPtr3 = *hopPtr1;
        ++used3;
        ++hopPtr3;
```

```
endeif3:
    endPtr11 = a1 + used1;


    hopPtr11 = hopPtr1 + 1;
begFL4:
    {
        *(hopPtr11 - 1) = *hopPtr11;
        ++hopPtr11;

        if (hopPtr11 < endPtr11) { goto begFL4; }
    }



    --used1;
    --endPtr1;
    --hopPtr1;
endif5:


    ++hopPtr1;
    if (hopPtr1 < endPtr1) { goto begFL3; }


    if (used1 != 0) { goto ENDIF2; }

    *(a1 + 0) = truncAvg;
    ++used1;


    goto ENDIF2;


ELSE2:

    hopPtr1 = a1;
    std::cout << am1dA1Str;
    std::cout << *hopPtr1;
    std::cout << endl;
    used2 = 0;
    used3 = 0;

ENDIF2:
    std::cout << procA1Str;
```

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    if (used1 < 0) { goto endif6; }

    hopPtr1 = a1;
    endPtr1 = a1 + used1;
begDW4:

    std::cout << *hopPtr1 << ' ' << ' ';
    ++hopPtr1;
    if (hopPtr1 < endPtr1) { goto begDW4; }
endif6:
    std::cout << endl;

    std::cout << procA2Str;
    if (used2 < 0) { goto endif7; }

    hopPtr2 = a2;
    endPtr2 = a2 + used2;
begDW5:
    {
        std::cout << *hopPtr2 << ' ' << ' ';
        ++hopPtr2;
    }if (hopPtr2 < endPtr2) { goto begDW5; }
endif7:
    std::cout << endl;

    std::cout << procA3Str;
    if (used3 < 0) { goto endif8; }

    hopPtr3 = a3;
    endPtr3 = a3 + used3;
begDW8:

    std::cout << *hopPtr3 << ' ' << ' ';
    ++hopPtr3;
    if (hopPtr3 < endPtr3) { goto begDW8; }
endif8:
    std::cout << endl;

    std::cout << dacStr;
    std::cin >> reply;


    goto MENUSTART;
EXITMENU:
```

```cpp
    std::cout << dlStr << '\n';
    std::cout << byeStr << '\n';
    std::cout << dlStr << '\n';

    return 0;
}
```